

Project/Facilities and Construction Management

**Performance
Characterization**

The Facilities Division of the Lawrence Berkeley National Laboratory continues to meet all Performance Objectives for FY 2003. Projects were managed within approved budgets and schedules, and all construction milestones were met on or ahead of schedule. Operations and Maintenance has completed the last phase of our condition-assessment inspections, providing the platform that could be used to implement an ongoing system of identification and prioritization of capital-repair projects for the reduction of deferred maintenance and asset life-cycle/capital renewal within the Division. This fiscal year, there were twenty goals addressing energy management, all of which were met. Energy conservation programs continue at high performance levels, and energy-use reduction continues to exceed Executive Order requirements. There was only one unplanned outage this year. The number of unplanned customer-hour outages was reduced from 15,810 to 265, which increased the electrical-distribution-system availability from 99.9856% to 99.9998%.

Preamble

The University of California, in partnership with the Department of Energy (DOE), plans, acquires, operates, maintains, leases, and disposes of physical assets that are also valuable national resources. The management of physical assets from acquisition through operations and disposition is an integrated and seamless process linking the various life-cycle phases. Stewardship of these physical assets during all phases of their life cycle is accomplished in a safe and cost-effective manner to meet the DOE mission and to ensure protection of workers, the public, and the environment. This management of physical assets incorporates industry standards, a graded approach, and the performance objectives described in this chapter.

General Note: Plans, lists, and milestones are made a matter of record in the first month of the fiscal year. These plans, lists, and milestones may be revised during the year by mutual agreement between the Laboratory and DOE facility functional managers.

**Performance
Objective #1**

Real Property Management: *The Laboratory effectively manages real property.*
(Weight = 5%)

Summary

All mutually agreed milestones developed at the beginning of FY 2003 have been met as planned. Data to track Fourth Quarter results are on schedule and will be available at the end of the quarter. We anticipate all milestones to be completed as planned.

**Objective #1
Criterion 1.1**

Real Property Management: *Real property is effectively managed consistent with mission, requirements, and DOE direction.* (Weight = 5%)

**Objective #1
Criterion 1.1
Performance
Measure 1.1.a**

Program Implementation: *Number of completed milestones/milestones scheduled for completion.* (Weight = 5%)

Assumptions:

The intent is to measure the effectiveness, completeness, and timeliness of implementation of real property management actions. Milestones are established in partnership with DOE and made a matter of record. Milestones may be established for Facilities Information Management System completeness, office space utilization, substandard building space conversion, real property leases, etc.

Gradient:

Unsatisfactory: Less than 0.60

Marginal: 0.60

Good: 0.70

Excellent: 0.80

Outstanding: 0.90

**Performance
Measure Result**

As planned, we have completed all milestones scheduled for the Third Quarter. We have tracked and documented our progress.

**Successes/
Shortfalls**

In an effort to satisfy a new DOE space-banking requirement, the Laboratory successfully worked with DOE, the Berkeley Site Office (BSO), and UC Davis to identify and transfer sufficient space to offset our need for new space. Due to this response, the Molecular Foundry immediately progressed to Critical Decision 2 (CD-2) approval.

Supporting Data

See Table 1.1.a, Milestones

Table 1.1.a. Milestones

Real Property Category	Milestone Number	Goal	Deliverables / Completion Date	Qtr Due	Done
Facilities Information Management System (FIMS)	1	Ensure FIMS contains validated, complete, and accurate information.	Produce annual update to FIMS QA Plan.	1 st	Yes
	2		Based on updated QA Plan, conduct periodic self-surveys and other cross-reference checks.	3 rd	Yes
	3	Ensure consistency with MARS financial database.	Produce documentation that shows annual reconciliation between FIMS and MARS.	4 th	
	4	Ensure the DOE Active Facilities Data Collection System (AFDCS) is updated and validated annually with complete and accurate information from FIMS.	Conduct annual AFDCS update process consistent with AFDCS QA Plan.	3 rd	Yes
	5	Excess facilities reporting.	Prepare memo to DOE regarding space banking and reconcile information in FIMS.	2 nd	Yes
Space Utilization	6	The Laboratory will optimize its total office-space utilization.	Document actions on space-utilization opportunities.	1 st 2 nd 3 rd 4 th	Yes Yes Yes Yes
	7	Create available space through space-mining activities.	Identify and document opportunities.	2 nd	Yes
	8		Select targeted opportunity and identify funding source.	3 rd	Yes
	9		Place project on funding list.	4 th	
Off-Site Leased Space	10	Provide essential space to perform mission.	Develop spreadsheet of current leasehold properties with appropriate data. Document requirements for the year.	1 st	Yes
	11	Evaluate off-site leased options.	Document evaluation of off-site options, as required.	1 st 2 nd 3 rd 4 th	Yes Yes Yes Yes
	12		Execute and document leasing activity, as required.	1 st 2 nd 3 rd 4 th	Yes Yes Yes Yes

Real Property Category	Milestone Number	Goal	Deliverables / Completion Date	Qtr Due	Done
Building Condition and Suitability	13	Evaluate the current condition of LBNL buildings and trailers.	Facilitate building condition information from other Facilities disciplines and apply Laboratory's "Rehab and Improvement Cost" model. Document in FIMS, as appropriate.	1 st	Yes
	14	Evaluate the suitability of LBNL buildings and trailers.	Apply LBNL/LLNL-developed Suitability Index methodology. Test the model and document results.	3 rd	Yes

**Performance
Objective #2**

Physical Assets Planning: *The Comprehensive Integrated Planning Process reflects current and future Laboratory needs. (Weight = 14%)*

Summary

We have achieved five key objectives with specific accomplishments set jointly with DOE. The objectives include:

- Site and Long-Range Planning
 - Space Planning
 - Project Planning
 - Environmental Planning
 - Communications
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**Objective #2
Criterion 2.1**

Comprehensive Integrated Planning Process: *The Laboratory develops, documents, and maintains a comprehensive integrated planning process that is aligned with DOE mission needs. (Weight = 14%)*

**Objective #2
Criterion 2.1
Performance
Measure 2.1.a**

Effectiveness of Planning Process: *Assess how the planning process is implemented to achieve maximum effectiveness in anticipating and articulating DOE and Laboratory needs. (Weight = 14%)*

Assumptions:

The Laboratory works with DOE counterparts in a cooperative effort to continuously evaluate the effectiveness of the comprehensive integrated planning process through the development of Laboratory-specific planning elements/milestones. Site-specific planning elements/milestones are made a matter of record.

Gradient:

Unsatisfactory: Less than 0.60

Marginal: 0.60

Good: 0.70

Excellent: 0.80

Outstanding: 0.90

**Performance
Measure Result**

As planned, we have met all milestones to date, and are on schedule to complete the remaining milestones.

The five key planning areas and objectives are:

1. Site and Long-Range Planning. In order to anticipate and plan for the effective use and future development of land and capital assets at Berkeley Lab, we have continued to work with the Laboratory's strategic planners, senior managers, other Laboratory staff, DOE and UC counterparts, and community members in long-range planning activities. Planning documents have been developed or revised to reflect current direction, as appropriate: One such document is the Long-Range Development Plan (LRDP), which is prepared for the UC Regents and is a broad-based 20-year-plus outlook primarily on population projections, space growth, and land use; another document, the Strategic Facilities Plan, which is prepared for the DOE Office of Science, outlines the Laboratory's facilities and infrastructure priorities for the next ten years.

As one of several site-planning activities, Berkeley Lab has taken an active role in vegetation management; the purpose is to preserve the natural character and environmental setting in a manner that revitalizes and improves the health of our groves and native grasses, reduces the

risk of wildland fires, and protects Laboratory assets and surrounding properties. We will continue to work with our surrounding neighbors, local fire departments, arborists, wildland-fire specialists, landscape architects, UC Berkeley faculty, the California Native Plant Society, East Bay Regional Park District, and other stakeholders in vegetation-management planning.

We will also continue to develop and refine our planning tools and analyses to find the most viable site-planning options and solutions. Tools may include the Geographical Information System (GIS) and other databases. Site analyses may include massing studies; parking, transportation, circulation studies; landscaping and signage development, etc.

2. Space Planning. The space-planning activities are another major area that is fully integrated in the comprehensive planning process. The Laboratory faces challenges of insufficient space and sub-General Services Administration (GSA) standards in utilization, aging and substandard facilities, changing space requirements, and inflexible facilities. The goals include managing the existing space effectively and developing options, such as evaluating off-site leases and third-party financed buildings, to accommodate future needs.
3. Project Planning. As requests for space and other projects continue to be realized, project-planning activities play an essential role. Systems have to be in place to review, prioritize, and rank all line-item construction projects, general plant projects (GPP), general plant equipment (GPE), and noncapital alterations (NCA). We will continue to work with cross-functional areas, improve our systems, and communicate priorities with the funding at hand.
4. Environmental Planning (National Environmental Policy Act [NEPA]/California Environmental Quality Act [CEQA]) Compliance. As the Laboratory's NEPA/CEQA Office, we have reviewed all Laboratory proposals for on- and off-site research, maintenance, construction, and programmatic and funding-related activities. We have processed and recorded those proposals already covered under existing NEPA/CEQA documentation and have maintained records of NEPA/CEQA decisions and determinations. For proposals requiring DOE-NEPA/University of California Office of the President (UCOP)–CEQA determination, we have prepared background research and recommendations and have forwarded them to DOE/UCOP in a timely manner; for proposed categorically excludable/categorically exempt projects, we have completed reviews in an efficient manner, typically within two weeks of receipt of all data. We have determined whether any proposals would require Environmental Assessment/Environmental Impact Statement (EA/EIS) or Initial Study/Environmental Impact Report (IS/EIR) preparation, and have assisted DOE/UCOP with preparation of

these documents as necessary. We have continued preparation of an EIR for the proposed LRDP.

5. Communications. With the recommendations from the latest Facilities Peer Review, we will improve communications with Laboratory divisions regarding facilities-planning activities. The goal is to establish a communication plan tied to the divisional involvement to enable information flow and a more effective planning process.
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**Successes/
Shortfalls*****Site and Long-Range Planning***

- Berkeley Lab Institutional Plan FY 2004–2008, April 2003 draft
 - Revised Site and Facilities section.
- Berkeley Lab Strategic Facilities Plan, May 2003 draft
 - Prepared and submitted revision to DOE.
- LRDP and EIR
 - Established schedule to complete LRDP and EIR. (Critical path item: Health Risk Assessment will be completed by October 2003.)
 - Conducted composite constraints analyses.
 - Developed “hypothetical development option” in evaluating LRDP impacts.
 - Met with UC Berkeley planners and continued coordination of LRDPs.
- Conducted site development analyses for various building projects, such as Molecular Foundry (MF), Building 49, User Support Facility, User Housing Facility, Specialized Computing Facility, and Biological Research Facility.
- UC Regents
 - Helped prepare presentation of successful MF design for CEQA approval and for approval of various leased-land parcel modifications, such as Grizzly Substation and MF, to UC Regents.
- Contracted with two additional consulting firms, M+W Zander and Aviva Litman Cleper, to assist with planning analyses and process improvement.

Space Planning

- Research Clusters
 - Conceived research clusters as a way to tie space needs with site-development opportunities.
 - Developed and documented possible research clusters to identify reuse opportunities and upgrade existing space.
- Berkeley Lab Five-Year Capital Asset Plan
 - Developed and documented a proposal for six construction projects based on third-party financed opportunities.
- Alternative Financing
 - Developed and submitted white paper on Building 50X to DOE.
- Building 50X
 - Solicited and reviewed proposals for occupancy.

Project Planning

- Revised Process
 - To improve communications on proposed projects, briefed Laboratory senior managers on every GPP, GPE, and NCA to be funded for the year. Deputy Laboratory Director, Operations, presented projects to the Director's Action Committee (DAC). Project Call Process procedures were revised.

Environmental Planning

- Reviewed and processed approximately 200 research, construction, maintenance, and operations proposals for NEPA/CEQA compliance.
- Prepared environmental documentation for the following activities:
 - Berkeley Lab Contract Extension EIR Addendum
 - Part B Permit Renewal Addendum to the Hazardous Waste Handling Facility (HWHF) EIR
 - Molecular Foundry EA/Negative Declaration
 - Building 50X Negative Declaration
 - Building 51 Blocks Transport project
 - Grizzly Peak Electrical Substation lease documentation
 - Building 51 Removal of Excess Materials
 - Installation of Ethanol Aboveground Storage Tank at Building 76
 - Building 49 EIR
- LRDP EIR
 - Made substantial progress on the Health-Risk Assessment by submitting draft of protocol to the Bay Area Air Quality Management Board, developing chemical inventory, and initial chemical screening.
 - Prepared project description and scope of LRDP EIR.

Communications

- Continued to strive to improve communications on space-management-planning processes and long-range-planning activities.
- Provided quarterly updates to Facilities Division Director on projects to be discussed with the City of Berkeley.
- Refocused the planning meetings with UC Berkeley staff to discuss areas of mutual interest, including the LRDP and EIR, Building 49, and the disposition of the soil.
- Met with Laboratory neighbors and community members on planning issues such as the Molecular Foundry and Building 49.

Supporting Data

See Table 2.1.a, Milestones

Table 2.1.a. Milestones

Physical Asset Plng Category	Milestone Number	Goal	Deliverables / Completion Date	Qtr Due	Done
Site and Long- Range Planning	1	Develop and document necessary plans.	Prepare UC planning documents, such as the Long-Range Development Plan (LRDP). Track quarterly progress.	1 st 2 nd 3 rd 4 th	Yes Yes Yes
	2		Prepare DOE planning documents, such as the Strategic Facilities Plan (SFP). Track quarterly progress.	1 st 2 nd 3 rd 4 th	Yes Yes Yes
	3		Prepare other beneficial planning documents, such as landscape guidelines, parking surveys, etc. Track quarterly.	1 st 2 nd 3 rd 4 th	Yes Yes Yes
	4	Improve planning processes.	Review and refine planning tools, such as the Geographical Information System (GIS). Track quarterly progress.	1 st 2 nd 3 rd 4 th	Yes Yes Yes
Space Planning	5	Tie space needs with site-development opportunities.	Work with site planners to develop and document functional planning areas, based on space and population projections.	1 st	Yes
	6		Develop and document possible scenarios of where research divisions, in growth modes, can expand.	3 rd	Yes
	7		Develop concepts and document progress on third-party financed buildings, as appropriate.	1 st 2 nd 3 rd 4 th	Yes Yes Yes
	8		Evaluate Space Needs Assessment Program and modify or eliminate as necessary.	4 th	
Project Planning	9	Improve project-planning process.	Incorporate feedback from Laboratory leadership and divisional coordinators, and revise process, as necessary.	1 st	Yes
	10		Translate space requests into project proposals, as applicable. Document proposals.	3 rd	Yes
	11		Conduct necessary project coordination meetings and prepare Director's Action Committee (DAC) presentations. Document meetings and presentations quarterly.	1 st 2 nd 3 rd 4 th	Yes Yes Yes

Physical Asset Png Category	Milestone Number	Goal	Deliverables / Completion Date	Qtr Due	Done
Environmental Planning	12	Review all proposals for NEPA/CEQA compliance.	Review and process research, construction, maintenance, and operations proposals for NEPA/CEQA compliance. Track progress quarterly.	1 st	Yes
				2 nd	Yes
				3 rd	Yes
				4 th	Yes
	13		Advise DOE and UC on level of compliance and prepare draft documents. Track quarterly.	1 st	Yes
				2 nd	Yes
				3 rd	Yes
				4 th	Yes
Communications	14	Develop Long-Range Development Plan Environmental Impact Report (LRDP EIR).	Develop LRDP EIR and any necessary assessments, studies, or analyses. Track progress quarterly.	1 st	Yes
				2 nd	Yes
				3 rd	Yes
				4 th	Yes
	15	Improve communications on planning activities.	Develop communication plan to incorporate comments from the FY02 Peer Review.	1 st	Yes
	16		Discuss plan with Laboratory leadership and Facilities Director, and determine the feasibility of implementation.	2 nd	Yes

**Performance
Objective #3**

Project Management: *The Laboratory completes construction projects within approved budgets, schedules, and scopes. (Weight = 33%)*

Summary

Projects were managed within approved budgets and schedules. All 16 milestones were met on or ahead of schedule.

The following significant accomplishments took place during fiscal year 2003:

- Received approval of CD-1, Approve Preliminary Baseline Range, for the \$13.25M Rehabilitation of Building Structure and Systems, Phase II. Building 77 is a 68,500 square foot (sf), high-bay, steel industrial facility that houses the Berkeley Lab Engineering Center for the design and fabrication of accelerator components, detectors, superconducting magnets, and other advanced scientific equipment and components for DOE research projects nationwide.
- Received CD-0, Approval of Mission Need, for the User Support Facility, a 30,000 gross square foot (gsf) facility to include a high-bay space for assembly of experimental equipment, semiclean staging areas, a wet laboratory, and office space. The facility will annually support over 2,000 scientific facility users.
- Beneficial occupancy of a new access road and issuance of the notice to proceed with construction of a new 200,000-gallon water tank in the East Canyon area of the Laboratory, as part of the Sitewide Water Upgrade project.
- Completion of design, construction, and conversion of approximately 2,700 sf of former shop space in Building 70A into an Earth Sciences wet laboratory. The scope included the demolition of existing solder hoods and equipment, the purchase and installation of chemical hoods, outfitting with lab benches, and the construction of a new office with soundproof walls, drop ceiling, and flooring.
- Issued the notice to proceed for the Base Radio Station, a critical component of the Laboratory-wide Radio Communications Systems Upgrade.
- Completion of beneficial occupancy for expansion of 2,500 sf of the computer floor at the Oakland Scientific Facility. The project included ceiling systems; extension of the seismically enhanced three-foot raised computer floor; computer-room heating, ventilating, and air conditioning (HVAC) systems; an underfloor chilled-water system to support floortop HVAC units; network-cable tray systems; laser-based

smoke-detection and underfloor fire sprinkler systems; connection of utilities; and seismic restraint of the computer equipment. Support utilities include expansion of the main chilled-water computer system in the basement. Beneficial occupancy was achieved ahead of schedule and under the project budget.

- Achieved beneficial occupancy of two projects in support of Building 6 beamline expansions. The Building 6 south-side expansion provides a hallway and lobby addition at the south side to allow expansion of Beam Line 12. Completion of the Building 6, Sector 4, Support Building provides 1,100 sf of equipment-staging area for Beamline 4.
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**Objective #3
Criterion 3.1**

Construction Project Performance: *Construction projects greater than \$500k (regardless of type of funds) achieve project performance objectives. (Weight = 20%)*

**Objective #3
Criterion 3.1
Performance
Measure 3.1.a**

Work Performed: *Number of objectives completed/number of objectives planned for completion. (Weight = 33%)*

Assumptions:

The intent is to measure actual progress against that planned for the fiscal year and for the Laboratory to execute projects and cost project funds in a timely manner. An objective list for all active projects is negotiated with DOE and made a matter of record. Only meaningful objectives are listed, but each active project has at least one objective per year. By mutual agreement between the Laboratory and DOE, objectives may be weighted for project significance, project size/cost, late/early completion, improved/diminished scope, etc. Negotiated objectives are not to be interpreted as baseline change approval.

Gradient:

Unsatisfactory: Less than 0.70

Marginal: 0.70

Good: 0.80

Excellent: 0.90

Outstanding: 1.00

**Performance
Measure Result**

Eleven milestones were met. No calculation of performance was made, as this is an annual measure.

**Successes/
Shortfalls**

Sixteen milestones are scheduled to be completed by the end of the Fourth Quarter. Project types include:

- New construction
 - User Support Building
- Infrastructure upgrades
 - Sitewide water upgrade, radio communications systems upgrade, and Building 77 Rehabilitation, Phase II
- Facility expansions
 - Building 943, Oakland Scientific Facility (OSF) Computer-Room buildout
 - Building 6, Sector 4, addition
 - Building 6 south-side expansion
- Building alterations
 - Building 70A wet- and culture-lab modifications
 - Building 64 laboratory and office-space expansion

There were no shortfalls.

Supporting Data

See Table 3.1.a, Work Performed

Table 3.1.a. Work Performed

Project	#	Milestone	Milestone Date	Actual Date	Milestones Met
B70A Wet and Culture Lab Modifications	1	Complete Title II for space conversion to Stampfer Culture Lab and Stringfellow Wet Lab.	July 31, 2003	Feb. 10, 2003	1
	2	Complete construction of Stampfer Culture Lab ready for moves.	Sept 30, 2003		
	3	Issue Notice to Proceed with construction of Stringfellow Wet Lab.	Aug 29, 2003	Apr 21, 2003	1
B77 Phase II Rehabilitation	4	Phase II CD-1 Approval	November 1, 2002	October 21, 2002	1
	5	Issue Notice to Proceed to the A/E for Title 1 Design. Submit CD-2 supporting Documentation to DOE for Approval*	Aug 1, 2003		
Radio Communications System Upgrade	6	Issue Notice to Proceed with BRS (Base Radio Station) Contract via DOE	April 30, 2003	March 14, 2003	1
	7	Complete radio tower.*	August May 30, 2003*		
	8	Completion Radio Equipment Installation/commissioning*	Sept 30, 2003		
B64 Add Lab/Office space	9	Complete Title II design for second floor labs and offices.*	August June 30, 2003*		
	10	Issue notice to proceed to contractor*	Aug 29, 2003		
B58A Expansion	11	Complete Title II design for building Extension* Project Cancelled	June 30, 2003		
	12	Issue notice to Proceed for construction of building* Project cancelled.	Aug 29, 2003		
Sitewide Water Distribution Upgrade	13	Calvin Road Beneficial Occupancy*	June 30, 2003	June 3, 2003	1
	14	Notice to Proceed for FY03 Construction (New Storage Tank)	April 30, 2003	Feb. 24, 2003	1
	15	Notice to Proceed for FY03 Construction (Seismic Upgrade on Existing Storage Tanks)	April 30, 2003	Feb. 24, 2003	1

Project	#	Milestone	Milestone Date	Actual Date	Milestones Met
B74 Seismic Upgrade	16	Complete Title I Title II design.*	August 30, 2003		
B943 OSF Computer Room Buildout	17	Beneficial Occupancy	April 30, 2003	Jan. 17, 2003	1
B6 Southside Expansion	18	Beneficial Occupancy	June 30, 2003	June 23, 2003	1
B6 Sector 4 Addition	19	Beneficial Occupancy	Feb 28, 2003	Jan. 27, 2003	1
User Support Building	20	Submit CD-0 supporting documentation to DOE.**	March 15, 2003	Jan. 22, 2003	1
				TOTAL	11

* Milestone descriptions and dates modified as agreed with Warren Yip on 3/26/03 due to Continuing Resolution. ~~Based on January funding approval by January 1, 2003~~

** Based on DOE approval to proceed by December 6, 2002.

**Performance
Objective #4**

Maintenance: *The Laboratory maintains capital assets to ensure reliable operations in a safe and cost-effective manner. (Weight = 33%)*

Summary

All 23 milestones in Performance Measure 4.1.a will be completed by the end of the Fourth Quarter.

**Objective #4
Criterion 4.1**

Facility Management: *Facility operations and maintenance are effectively managed consistent with mission, risks, and costs. (Weight = 33%)*

**Objective #4
Criterion 4.1
Performance
Measure 4.1.a**

Program Implementation: *Sum of completion percentages for all milestones worked/milestones scheduled for completion. (Weight = 33%)*

Assumptions:

The intent is to measure the effectiveness and timeliness of the Laboratory's facility maintenance program. A list of mutually agreed milestones is made a matter of record. Milestones are established for internal performance indicators using Energy Facility Contractors Group (EFCOG) benchmarking elements, operational awareness activities, annual maintenance summary report, and others, as mutually agreed upon.

Gradient:

Unsatisfactory: Less than 60%

Marginal: 60%

Good: 70%

Excellent: 80%

Outstanding: 90%

**Performance
Measure Result**

Fifteen FY-2003 milestones that were due in the First, Second, and Third Quarters were completed.

All twenty-three milestones will be completed by the end of the Fourth Quarter.

**Successes/
Shortfalls**

Successes

Operations and Maintenance has completed the last phase of our condition-assessment inspections, providing a platform that could be used to implement an ongoing system of identification and prioritization of capital-repair projects for the reduction of deferred maintenance and asset life-cycle/capital renewal within the division.

Shortfalls

The number of performance measures completed on schedule has decreased in comparison to those during past years.

Supporting Data

See Table 4.1.a, FY-2003 Maintenance Milestones.

Table 4.1.a. FY-2003 Maintenance Milestones

Milestone Number	Description	Qtr Due	Done
1	Complete FY02 By-Bldg. Maintenance Actuals Report	1 st	Yes
2	Complete FY02 By-Bldg. & Site Deferred Maintenance Report	1 st	Yes
3	Complete FY03 Annual & 5-yr. Maintenance Projects Plan	1 st	Yes
4	Complete FY03 Beginning Backlog Projects Reconciliation List	1 st	Yes
5	Complete Updated 5-yr. Property Inspection Plan	1 st	Yes
6	Perform Quarterly Internal Maintenance Benchmarking	1 st	Yes
7	Develop and Implement New Building Cost Report for Monthly/Yearly Assessment of Cost Breakdown (PM/CM/EM Work Types, Crafts, and Utility Costs) by Square Feet by Building Category.	1 st	Yes
8	Complete Property Inspection Outsource Requisition	2 nd	Yes
9	Complete FY03 By-Bldg Maintenance Requirements Report	2 nd	Yes
10	Complete FY02 LBNL Annual Maintenance Executive Summary Plan	2 nd	Yes
11	Perform Quarterly Internal Maintenance Benchmarking	2 nd	Yes
12	Complete Implementation of PM program for Main Building Damper Systems	2 nd	Yes
13	Complete Property Outsource Inspection	3 rd	Yes
14	Schedule/complete DOE/OAK informal operation awareness site visit of maintenance program activity	4 th	*
15	Perform Quarterly Internal Maintenance Benchmarking	3 rd	Yes
16	Complete Property Outsource Inspection Report	4 th	*
17	Complete Property Inspection Summary Report	4 th	*
18	Complete Backlog Summary Report	4 th	*
19	Perform Quarterly Internal Maintenance Benchmarking	4 th	*
20	Complete enhancements/modifications to MAXIMO Safety Pilot Project	4 th	*
21	Develop Fire Damper PM Plan	4 th	*
22	Develop Lab Painting Standard Plan	4 th	*
23	Develop Work Order Mobile Solution Plan	4 th	*

* Scheduled to be completed in the Fourth Quarter.

**Performance
Objective #5**

Utilities/Energy Conservation: *The Laboratory maintains a reliable utility system and conserves energy. (Weight = 15%)*

Summary

There were twenty goals defined for this fiscal year that address the Energy Management Requirements defined in DOE Order 430.2A, all of which were met. Energy conservation programs continue at high performance levels, and energy-use reduction continues to exceed Executive Order requirements. There was one unplanned outage. While the Laboratory was prepared to issue Laboratory-wide e-mails to reduce electrical loads during utility-supply-deficiency warnings, no warnings occurred during this fiscal year.

**Objective #5
Criterion 5.1**

Energy Management: *Energy initiatives are managed consistent with a comprehensive energy management plan. (Weight = 15%)*

**Objective #5
Criterion 5.1
Performance
Measure 5.1.a**

Energy Goals: *Energy goals accomplished/goals scheduled to be accomplished in accordance with the plan. (Weight = 15%)*

Assumption:

The energy management plan is made a matter of record.

Gradient:

Unsatisfactory: Less than 0.60

Marginal: 0.60

Good: 0.70

Excellent: 0.82

Outstanding: 0.90

**Performance
Measure Result**

Nine goals were met through the Third Quarter of FY 2003. No calculation of performance was made, as this is an annual measure.

**Successes/
Shortfalls**

The number of unplanned customer-hour outages was reduced from 15,810 to 265, which increased the electrical-distribution-system availability from 99.9856% to 99.9998%. No shortfalls were noted.

Supporting Data

See Table 5.1 for supporting data.

Table 5.1. Energy Management Plan

Goal No.	Goal Category	Goal	Deliverable
1	The reduction in buildings Btu/GSF expressed as a percent of FY-1990 usage.	Review Laboratory and Process Load definitions, make changes to FIMS as appropriate, and report buildings' energy usage and GSF to DOE quarterly through Energy Management System (EMS-4).	EMS-4 Reports.
2	Implementing water-efficiency programs and plans.	Develop and submit FY-2003 Retrofit Project Abstract and Model Program proposals to DOE/Departmental Energy Management Program (DEMP) for water efficiency projects.	Copy of the proposals. Complete
3	Annual progress of at least 10 percent toward completing energy and water audits of all facilities.	Complete at least one energy or water audit.	Summary report showing Berkeley Lab facilities, square footage, and status of studies in each. Study report.
4	Progress toward installing all cost-effective energy and water-efficiency measures by January 2005.	Complete at least one energy or water retrofit.	Project report(s) documenting the expense of project funding and the results.
5	Annual progress toward qualifying buildings for the Energy Star® Building label.	Selection, data gathering, and calculation of Energy Star® Building qualification for at least one building.	Copy of Energy Star label screening tool results and application, if qualified.
6	Application of sustainable design principles to new buildings.	Produce a report for the Molecular Foundry showing compliance with California Title 24 energy-efficiency requirements.	Copy of the report. Complete
7	Application of sustainable design principles to new buildings.	Produce a report for the Molecular Foundry, using the Leadership in Energy and Environmental Design (LEED) rating system as a basis for evaluation, stating which sustainable design elements will be included in the design or are recommended for inclusion in the design based on cost/benefit.	Copy of the report. Complete
8	Selection of DOE/Environmental Protection Agency (EPA) Energy Star® products.	Distribute Federal Energy Management Program (FEMP) procurement guidelines and product recommendations to Programmatic specifiers of equipment.	Records of materials distributed.
9	Identify low-cost energy conservation deficiencies.	Review FY-2002 Property Inspection Report and summarize the low-cost energy conservation deficiencies identified.	Summary report of low-cost energy conservation deficiencies identified.
10	Minimization of the use of petroleum-based fuels by switching to natural gas.	Develop and submit a FY-2002 Model Program Project proposal to evaluate options for employing compressed natural gas (CNG) vehicles at Berkeley Lab.	Copy of the proposal. Complete
11	Increased use of alternative funding mechanisms.	Apply for all rebates, grants, and other financial incentives applicable to Berkeley Lab facilities projects, if any.	Copies of applications.

Goal No.	Goal Category	Goal	Deliverable
12	Increased use of alternative funding mechanisms.	Provide technical support services to Federal Energy Management Program (FEMP) and other federal agencies.	Summary report of franchising activities. Complete
13	Energy management training.	Provide a total of five person-days of energy-efficiency, water-conservation, or utilities-analysis training.	Records of class attendance. Complete
14	Increased use of on-site renewable energy generation systems.	Develop and submit a FY-2003 Retrofit Project proposal abstract to DOE DEMP for a photovoltaic power station pilot project.	Copy of the proposal abstract. Complete
15	Control loads to minimize utility costs.	Continue the conversion of the Barrington Energy Management Control System (EMCS) to the JCI Metasys.	Project technical and financial documents.
16	Control loads to mitigate the impact of disruptions in the supply of energy.	Issue lab-wide e-mails to reduce electrical loads during supply deficiency Level 1, 2, or 3 Warnings.	Copies of e-mails distributed.
17	Control loads to mitigate the impact of disruptions in the supply of energy.	Update the LBNL emergency conservation plan, including detailed plans to operate the 2 mW generator during electrical supply deficiency occurrences.	Copy of the plan.
18	Performance evaluations and employee incentive programs.	Include the minimization of utilities cost and consumption in applicable employee position descriptions, and reward exceptional performance.	Copies of position descriptions, awards program data, and any nominations. Complete
19	Outreach programs to motivate employees to become more efficient in their use of energy.	Energy Awareness Month activities including e-mail memos, distribution of posters, and the displaying of banners. Holiday Shutdown activities including suggestions for employee action.	Copies of applicable publications and photographs. Copies of request for employee cooperation and estimate of savings. Complete
20	Maintain reliable electrical utility service.	Total number of customer hours of electric service less the number of customer hours of unplanned outages/total customer hours will be at least 99.982%. See Note 1.	Copy of calculation.

Note 1: A planned outage is a loss of power that has been coordinated with building occupants with sufficient prior notification to minimize loss of work, or is the result of an emergency plan to minimize loss of property damage or risk to personnel safety. Unplanned outages caused by occurrences outside the boundary of the Laboratory's electrical system, inside buildings, or outside the direct control of the Laboratory (e.g., natural disasters or acts of war) will be reported but not included in the calculation. Any other outage will be included in the calculation. A 12-month running average will be reported. A customer is defined as 5 kVA of rated capacity. An adjustment in the calculation may be made by mutual agreement to account for such factors as substations with light loads.